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ABSTRACT

A study was carried out in Kenya to investigate the oral lexical production of learners of English as a Second Language with different native languages. The overall results revealed a clear difference between the Kenya language speakers on the one hand and native speakers on the other: native speakers showed an overwhelming preference for manner verbs of locomotion, while the Kenyans had a slight preference for path verbs. On closer investigation, it was found that there were significant differences between speakers of different native languages in the distribution of these motion verb types. This suggests that cross-linguistic influence can operate in quite subtle ways along with other factors. (Contains 45 references.) (Author/JL)

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INTERLANGUAGE LEXIS: AN INVESTIGATION OF VERB CHOICE

David J. Hill (DAL)

Abstract

A study was carried out in Kenya to investigate the oral lexical production of learners of ESL with different L1s. The overall results revealed a clear difference between the Kenya language speakers on the one hand and native speakers on the other: native speakers showed an overwhelming preference for manner verbs of locomotion, while the Kenyans had a slight preference for path verbs. On closer investigation it was found that there were significant differences between speakers of different L1s in the distribution of these motion verb types. This suggests that crosslinguistic influence can operate in quite subtle ways along with other factors.

1. Studies of interlanguage lexis and transfer

Whatever the nature of the interlanguage continuum (cf. Tarone 1983), vocabulary acquisition is a continuous if uneven process within it. As Wilga Rivers (1981) points out, this is one area of language learning which does not seem to be slowed down by increasing age.

> It seems rather to become easier as one matures and one's knowledge of the world and the differentiations in the realm of thoughts broaden. Even in a foreign language, the first ten words are probably the most difficult one will have to learn.
>
> (Rivers 1981:123)

The link between vocabulary development on the one hand and maturation and cognitive development on the other is clearly a vital one, even in a second language. Knowledge of the world enables us to increase our vocabulary stock in almost exponential terms, since once a fragment of the target language has been mapped on to this knowledge it becomes possible to acquire other words indirectly by inferring their meanings from the contexts in which they occur or by being given explicit definitions of them (Johnson-Laird 1987).

In the early stages of learning another language the learner usually seeks to reduce his learning task by finding similarities to his L1 wherever possible (Ringbom 1983). He relies at first on simple translation equivalents and in consequence errors proliferate. As learning progresses, he gradually becomes aware of the dangers of this approach and will stop equating L1 and TL words, sometimes going too far in the other direction, as Kellerman's work (referred to below) shows. Therefore even at an advanced level lexis presents considerable problems for the L2 user (Marton 1977).

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A good deal of work has been done on learners' lexical errors, which Meara (1984) has described as the classic research tool in the investigation of lexical interlanguage. Examples of such studies include Duskova (1969), Myint Su (1971), Ringbom (1978, 1982) Laufer-Dvorkin (1986) and Zimmerman (1987). Linnarud's (1986) study of lexis in composition is also partly in this tradition. Meara characterizes most of them as useful descriptive studies which are, however, essentially post-hoc analyses with little predictive or explanatory power. This view reflects a widespread dissatisfaction with 'traditional' error analysis *per se* and a trend towards more balanced investigations of interlanguage in which error analysis could still play a role, albeit reduced. Laufer-Dvorkin's research findings, for instance, provide evidence for a phonological type of organization in the interlanguage lexicon, in which the salient features of lexical items would appear to be grammatical category, stress pattern and initial sounds.

Another well-worn branch of linguistics - contrastive analysis - which had also been applied to lexis (e.g. Dagut 1977), has been reappraised in recent years in terms of transfer (e.g. Ringbom 1983). Heikkinen (1983) has discussed the difference between lexical speech errors in L1 and L2 processing.

Some interesting work on interlanguage polysemy in relation to transfer has been done by Kellerman (1978, 1979). Dutch learners of English were asked if a number of Dutch sentences containing the equivalent of 'break' would translate directly into English and the results suggested that learners tend to transfer 'core meanings' but avoid transferring more peripheral meanings. Kellerman argued that this was because of the universality of the concepts underlying the core meanings.

Levenston and his co-worker Blum have contributed a substantial body of work on lexical simplification strategies, by which is meant how learners cope with situations where they want to avoid certain types of words when they are operating in their L2 (Blum and Levenston 1978a, b).

Meara has investigated the semantic structure of the learner's lexicon (Meara 1978, 1982, 1984) as well as the nature of the phonological entries in it (Meara and Ingle 1986). His work has pointed to major differences between native speakers and learners in the way they store and handle words. The learner's lexicon

> is more loosely organized and the semantic factors are frequently overridden by extraneous phonological factors, such as the chance resemblance between a form in the L1 and another in the L2.
>
> (Meara 1984: 234)

Meara has made extensive use of word association tests in his work. The Kent-Rosanoff list of 100 items, originally designed in the early years of this century to investigate mentally disturbed patients, has been the basis of many psychological studies of verbal behaviour (cf. Postman and Keppel 1970) and has been used in research with bilinguals (e.g. Lambert and Moore 1966). The restricted word association tests developed by Riegel (Riegel 1968, Riegel and Zivian 1972), in which categories such as superordinate, function and quality are used to constrain responses, was employed by Ramsey (1981) in an interlingual study with English, Castilian and Catalan native speakers. Ramsey found that the Castilian and Catalan speakers gave responses which resembled the semantic structure of their L1 more than that of English.

Another line of investigation was taken by Strick (1980), who used word similarity ratings of terms of address for a comparative study of adult semantic structure among native English speakers and Iranian speakers of English. He concluded that semantic

development in a second language is a gradual process of transition from native to second language semantic structures.

In another study Ijaz (1986) found that L2 learners consistently favoured lexical/semantic structures that had close equivalents in their native language. Generally, native language conceptual patterns appeared to be a powerful determinant of the meaning ascribed to the L2 and these patterns were rigid and difficult to permeate. Conceptual complexity may thus be a factor influencing L2 lexical acquisition.

The importance of the work of Ijaz and that of d'Anglejan and Tucker (1973), as well as Bates and McWhinney (1981), has been to show that L1 constraints may influence the learner's conceptual patterns and semantic, pragmatic and perceptual strategies without becoming easily apparent in linguistic usage. Therefore lexical errors alone are not a reliable indicator of L1 influence. The strategy of avoidance must also be taken into consideration (Schachter 1974; Palmberg 1983).

Tanaka and Abe (1985) have proposed a model of lexico-semantic development in adult L2 learners, in which the pervasiveness and persistence of transfer is constrained by the conditions of prototypicality and specific exemplariness in order to account for over- and under-extensions.

The influence of the L1 on the acquisition of lexical boundaries in the L2 received confirmatory evidence in an experiment by Graham and Belnap (1986). The role of the L1 in IL lexis has also been studied by Giacobbe and Cammarota (1986).

Palmberg (1987) has carried out a longitudinal pilot study of vocabulary development in a small group of Swedish schoolchildren learning English, without however coming as yet to any very definite conclusions, apart from showing that acquired vocabulary tends to reflect individual interests.

In a study which has some similarity to the present one in its partial focus on verbs of motion, Harley and King (1989) found some evidence that French immersion students in Canada made substantially less use than native speakers of common French verbs expressing both motion and path and preferred "verbs of motion which have direct translation equivalents and which in general can be fitted more readily into semantic and syntactic frames that are common in English" (Harley and King 1989: 426).

Finally, we should not forget that crosslinguistic influence is but one of several factors operating on second language vocabulary acquisition (Schlyter and Viberg 1985). Some other factors are:

- general constraints on information processing
- the communicative importance of target words
- the input frequency of target words
- the formal complexity of target words.

There is clearly scope for a great deal more research in this area.

2. Theoretical considerations

Any investigation of lexis requires the researcher to make certain theoretical linguistic assumptions before he can proceed. Thus a brief consideration of different views of lexical semantics will be necessary.

Classical approaches to lexical semantics tend to view language as an autonomous system. The structuralist tradition led to the development both of Trier's field theory (a holistic view) and of componential analysis (a decompositionalist view). Such conflicting views have been common in the history of semantics, although attempts have been made to reconcile them (e.g. Leech 1981).

Cognitive semantics, on the other hand, does not see language as separate from cognition in general. This approach arose out of psychological studies of categorization, principally those of Eleanor Rosch on prototypes and basic level terms, and has been taken up by linguists such as Lakoff, Fillmore and Langacker. Thus Lakoff's 'experientialist' approach to meaning (Lakoff 1987) traces basic conceptual structures like 'up-down', 'part-whole' and 'motion' back to preconceptual bodily experience. He argues that the bodily experience of motion is based on an image-schema which includes the structural elements 'source', 'path', 'goal' and 'direction' (Lakoff 1987: 275).

Leonard Talmy's work on the semantics and syntax of motion can be viewed within the perspective of cognitive semantics. His study of the Amerindian language Atsugewi led him to a concern with lexicalization patterns, that is, the relation between underlying meaning and surface expression (Talmy 1985). Central to his view of a 'motion event' are the components of 'Figure', 'Ground', 'Path' and 'Motion'. The terms 'Figure' and 'Ground' are borrowed from Gestalt psychology but are given a distinct semantic interpretation. The basic motion event thus consists of one object (the 'Figure') moving or located with respect to another object (the reference-object or 'Ground'); the 'Path' is the course followed or the site occupied by the Figure object with respect to the Ground object; 'Motion' refers to the presence or absence of motion, represented by 'move' or 'be', i.e. 'be located', respectively. A motion event can in addition have a 'Manner' or a 'Cause', which Talmy sees as external to the motion event itself. He argues that his notions of Figure and Ground etc. have several advantages over Fillmore's system of cases, with which there are a number of similarities (cf. Fillmore 1968, 1977).

Talmy presents a typology of lexicalizations of the verb root with respect to Motion. Any language will use only one of three types in its 'most characteristic' expression of motion. Motion conflated with Path appears to be the most widespread type and is favoured by the Romance and Semitic languages, for instance. However, Motion conflated with Manner or Cause is the most characteristic type in at least two major languages - Chinese and English (as well as most other Indo-European languages). The notion of Path in this second type is usually conveyed by particles separate from the verb (as in 'she walked away'); Manner in the first type may be expressed in an adverbial or simply omitted. The third type, Motion conflated with Figure, is not very common but is found in some Amerindian languages. It is possible to illustrate all three types in English: 'enter' - Motion + Path; 'run' - Motion + Manner; 'spit' - Motion + Figure (Talmy 1985:62-72).

Talmy's analysis does seem to provide a kind of universal grammar of motion and has been used as the basis of the study reported on in this paper, which focuses on verb choice. The hypothesis under investigation is that speakers of different L1s will show a significant preference for lexicalization patterns similar to those of their L1.

3. Method

The study formed the major part of a Ph.D. research project largely carried out in Kenya in 1989. Kenya is a multilingual country, with 35-40 language communities, drawn from the Niger-Congo, Nilotic and Cushitic families. As a legacy of British colonialism, English is the medium of instruction in schools from the early primary stage. However Kiswahili (the mother tongue of some small communities along the coast) has the status of 'national language' and is widely used as a lingua franca, as it is over much of East and Central Africa. It is taught throughout primary and secondary school.

The 158 subjects in the study were all students at schools and colleges in the west of Kenya. They consisted of speakers of three languages - Dholuo (DL), Nandi (NA) and Olunyore (YR). Dholuo and Nandi are from distantly related branches of the Nilotic language family; Olunyore is a Bantu language from the Niger-Congo family. Virtually all subjects claimed a knowledge of Kiswahili and some of a third Kenyan language, usually one closely related to their own. They were drawn from two educational levels: (i) first-year pupils at secondary school, who had had eight years of primary education; (ii) trainees at primary teachers college (mostly second-year students in a two-year programmme), who had all completed at least four years of secondary education and in some cases had already worked for a time as untrained teachers. This gave a total of six groups of 20-30 subjects each (labelled DLS, DLT, NAS, NAT, YRS, YRT), drawn from five secondary schools and two teachers colleges.

A small-scale contrastive lexical analysis was carried out to survey the lexical field of locomotion in the three languages and to determine where they fitted in Talmy's typology. Translation tests based partly on Talmy's own examples were administered to a number of speakers; the results suggested that all three languages belonged to the more widespread Path type. In learning English, the students were therefore faced with a language which favoured a different motion verb lexicalization pattern.

The research instrument was a story-retelling task. A simple narrative was constructed around a boy's journey to school so as to include a broad range of locomotion events in a culturally familiar setting (see Appendix). This was accompanied by a series of 24 pictures drawn by a local teacher. Small teams of native speakers of the three Kenyan languages were involved in translating the story from English. Their versions gave further support to the inclusion of these languages in Talmy's Path type. The final three versions and the English original were then recorded on audio tape by native speakers, together with instructions in the appropriate language. In the actual task, after being given a few minutes to study the pictures, the subjects were asked to listen to the story told in their own language as they followed the pictures. They then had to retell the story in English, using the pictures as a guide. After an interval of 7-10 days, but without previous warning, the subjects were given the pictures once more and asked to listen to the story in the original English version before retelling the story again. Both retellings were recorded on tape and later transcribed, either in full or with the verb phrases only.

The experiment was designed to maximize the possibility of transfer from the L1 on the first retelling and then to see how far the effects would persist in the second retelling after hearing the L2 version. To provide a basis of comparison, the English version of the story was administered to two groups of native speakers at primary and secondary school in Scotland.

4. Discussion

Possibly because of the length of the narrative and the similarity of some of the pictures, some subjects had difficulty in retelling the story in the correct sequence and/or reinterpreted the pictures rather than use what they had originally heard. As an example of the latter, picture 14, showing the boy, Juma, scratching his head while he stood at a junction not sure of his way, was, in a few cases, no doubt influenced by his later accident, described as Juma holding his injured head! This kind of reinterpretation, together with omissions and the grouping together of incidents in the narrative in summarized form, makes complete frame-by-frame comparison between subjects impossible. However, the question of frequency of use of motion verb types should not be affected by these problems.

Apart from the usual transcription problems with oral texts a further and potentially more serious problem is the interpretation of the speaker's words, which could affect the categorization of the lexical items. Nevertheless, in most cases this could be clarified from the context.

As indicated above, the main focus of the study was on verbs. A total of 164 verb types was used in referring to the motion events in the narrative. Many of these had only a single token, i.e. they were just used once by a single subject. There was some quite idiosyncratic usage:

(someone saw a madman and) hesitated back
he tried to over the ditch (by jumping)

In some cases subjects used more than one verb for a single frame. Although all verbs were listed, along with accompanying prepositions or particles, I will be concerned here with the main verb used.

Table 1 shows the most frequent verbs with their occurrences in each of the Kenyan groups at both retellings.

Table 1 Most frequent verbs used

Verb	DS1	DS2	DT1	DT2	NS1	NS2	NT1	NT2	YS1	YS2	YT1	YT2
climb	18	16	18	7	21	15	25	11	19	13	20	17
come	38	59	33	44	21	34	24	40	29	28	17	29
crawl	6	6	7	11	12	13	11	13	9	18	4	11
cross	5	4	8	7	7	10	19	11	14	12	12	13
escort	25	21	20	23	19	28	37	32	30	26	21	18
fall	23	18	22	19	20	22	22	17	26	29	13	14
follow	27	24	22	14	19	14	21	24	41	38	18	14
go	68	56	62	40	97	97	94	84	112	96	55	35
jump	21	20	23	21	15	20	22	19	21	27	22	15
leave	6	11	7	12	2	12	8	20	3	10	15	12
pass	42	41	27	19	61	38	31	23	39	30	15	16
reach	38	43	38	61	49	59	50	48	76	95	67	67
run	31	24	36	24	37	24	26	19	33	28	12	12
take	15	17	30	25	7	9	16	10	5	15	15	18
walk	54	54	46	56	15	25	21	25	39	50	18	37
ALL VERBS	499	502	506	495	505	604	519	501	595	629	417	428

It can be seen that 'escort' is a high frequency item in all the Kenyan groups, although it did not occur in the English version and was only used by one native speaker. There would appear to be a cultural rather than linguistic reason for this. In East African society, and in other parts of Africa, it is regarded as an essential courtesy to departing visitors to walk with them for at least part of their way home, and the English verb 'escort' is commonly used to refer to this. The custodial sense which the word often has in English (as in 'The policeman escorted him to the cells') is probably less strong for these speakers.

The first step in the analysis was to assign all the verbs used to refer to locomotion to relevant semantic categories. It was eventually decided to have three of these. The first consisted of general motion verbs such as 'move', together with path-specifying motion verbs like 'come', 'cross', 'enter', 'follow', 'leave' and 'reach'. (It should be noted that the most frequently used verb of motion - 'go' - can have either a general motion or a path - usually deictic - sense.) The second category was made up of manner-specifying motion verbs, such as 'climb', 'crawl', 'jump', 'run', 'squeeze' and 'walk'. The third category was a broad range of other verbs used to refer to a motion event. These could be subdivided into various sub-categories such as causal and aspectual, which need not be gone into here. This was quite a large category in terms of verb types, but most were used only once or twice.

The overall distribution of semantic categories for each language group is shown in table 2. The percentage figures are based on the 20 frames in the story where the choice of either a manner or path verb seems to be less constrained by the context (the verbs for these used in the English version are printed in bold in the Appendix); this restriction was abandoned in the subsequent analysis, partly because the selection of the frames was disputable and also to provide adequate amounts of data. These figures can be compared with the distribution for each of the language versions which is given in Table 3. Assuming that the three Kenyan languages all belong to the path-preferring group, the distributions in Table 2 are consistent with the interpretation that subjects maintained in their L2 usage the motion verb-type preference of their L1.

Table 2 Distribution of semantic categories in oral retelling (percent)

	DL	NA	YR	KENYA	MT
'path'	55.23	62.17	57.27	58.23	29.49
'manner'	37.51	30.72	33.32	33.83	57.66
'other'	7.26	7.12	9.42	7.94	13.04

Table 3 Distribution of semantic categories in language texts (percent)

	DL	NA	YR	ENG
'path'	50.00	55.00	45.00	15.00
'manner'	50.00	45.00	40.00	80.00
'other'	0.00	0.00	15.00	5.00

Initially it was hoped that raw verb frequencies for each group could be used in chi-square tests for significant differences. However, the pooling of subject figures in the group totals, while justifiable for demonstrating broad differences as above, violates a

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fundamental requirement for these tests of having independent observations. It therefore seemed advisable to use Analysis of Variance instead.

This required the formulation of a suitable interval or ratio measure which could be applied to each subject's data. The ratio that seemed most appropriate to the investigation was calculated according to the formula:

$$\frac{P\,(P + M)}{MT}$$

where P is the number of path (and general motion) verbs used, M is the number of manner verbs and T is the total of all verbs used by the subject to express locomotion. This formula would appear to be preferable to a simple P/M ratio in that it takes account of other verbs used.

The results of a three-way ANOVA (with repeated measures on the Version factor) are shown in Table 4. These should be regarded as provisional, because they are based on equal sized groups (of 20), which involved eliminating a number of subjects who recorded fewer verbs in their retellings.

Table 4 Analysis of variance for PM(T) ratios

Source of variation	SS	df	MS	F	p
Between subjects	223.24	119			
Language	15.50	2	7.75	4.38	0.05
Level	5.47	1	5.47	3.09	n.s.
Language * Level	0.38	2	0.19	0.11	n.s.
Error	201.90	114	1.77		
Within subjects	107.24	119			
Version	2.67	1	2.67	3.05	n.s.
Language * Version	3.13	2	1.56	1.79	n.s.
Level * Version	0.25	1	0.25	0.28	n.s.
Language*Level*Version	1.52	2	0.76	0.87	n.s.
Error	99.67	114	0.87		

This is as far as the analysis has gone at the time of writing but clearly further tests are needed, such as post-hoc Scheffe tests, to find out exactly where the significant language differences are (Language being the only significant main effect to be identified so far).

5. Conclusions

The results of the study indicate a persistent preference for particular verb categories in the field of motion, even after exposure to a TL model and despite the fact that actual verbs used changed in a good many cases between the two retellings. The Kenyan subjects tended to use far more path-specifying motion verbs than did the native speakers. There was a slight overall reduction on the second retelling but this is not statistically significant. This can, however, be seen more clearly on certain frames, where lack of familiarity with some English manner verbs of motion might have been a factor in the use of a manner verb only on the second retelling. It might for instance have been the less familiar (to the Kenyan learner) locomotion sense of a manner verb

such as 'squeeze', which led to its infrequency on the first retelling and its far from overwhelming usage on the second.

As for the lack of a clear difference between the two levels, this may reflect the poor level of proficiency of the trainees. It is possible that more advanced learners, such as university undergraduates, would have shown less preference for path verbs and more willingness to use manner verbs.

The significant differences between the three language groups, which the ANOVA points to, are interesting. Clearly Talmy's typology cannot be expected to account for all aspects of lexicalization in the field of motion. Other factors may be involved in the choice of verb. One feature, for instance, that does emerge from the data is the quite common use of nominalization in the Luo-speaking groups, e.g.

have a rest

have a stroll

make a jump

make a corner (i.e. go round the corner)

give (someone) a push (=escort)

In addition the data may provide some evidence of an emerging local variety of English. Certain constructions are to be found throughout all the groups, in particular a tendency to use two verb forms together in describing a single motion event, either as verb + participle or as two finite verbs:

came running	jumped and passed
moved passing	moved upwards and crawled
passed walking	left and pushed between
crawl down climbing	hurried and went away
scrambled getting through	crawled and went back
(tried to) walk limping	

There is clearly considerable individual variation in the lexicalization of locomotion as well as the differences due to linguistic and cultural factors and it may not always be possible to disentangle the various strands involved in the performance of language learners. We are therefore still a long way from understanding all the complexities of lexical organization and use in second language acquisition.

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Appendix

(1) Juma left Otieno's home after breakfast (2) and Otieno **walked** up to the main road with him. (3) Juma then **strode off** briskly, whistling happily as he went. (4) When he reached a signboard he **jumped over** the ditch at the side of the road, just as Otieno had told him, (5) and **took** a narrow path into the bush. (6) He soon reached the small market Otieno had mentioned. (7) Juma thought he had plenty of time, so he **strolled round** the shops and chatted to a few people. (8) Then he saw a crowd that had gathered round a local preacher and he **wandered over** to listen for a while. (9) Seeing that it was getting a bit late, he **squeezed past** two fat women (10) and hurried round a corner to get back on his path. (11) But he staggered back for a moment as the village madman **ran** past him. (12) When he came to a shallow stream further on, he **waded** across it (13) and **scrambled up** the slope on the other side. (14) He hesitated when he came to a fork in the path but in the end he **followed** the path to the left. (15) However, after some distance he realised his mistake and **ran back** to take the other path. (16) He was feeling rather tired now as he **trudged through** a lot of mud. (17) Unfortunately he slipped off the raised path, fell on a rock and bruised his leg. (18) Eventually he **crawled back** on to the path, managed to stand up (19) and then **limped away** from the unlucky spot. (20) He soon met his classmate John leaving his home. (21) John invited him in to have a rest and a cup of tea. (22) Afterwards, feeling much better, Juma **set off** for school with John. (23) As they were now very late, they **sneaked round** the back of the headmaster's house, which was just outside the school compound. (24) Then they **raced** to the school gate and were surprised to see a notice saying that the school would re-open the following week.